

states

States EERE Partnerships



The U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE), Industrial Technologies program's States EERE Partnerships initiative is broadening the reach of national Industries of the Future (IOF) priorities through expanded partnerships with industry, state agencies, universities, and local research and academic institutions. States EERE Partnerships encourages the use of energy research and development results to deliver energy efficiency opportunities and waste reduction to basic industry.



Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy



West Virginia

West Virginia established the first state-level initiative in 1997. Developed by the West Virginia Development Office and West Virginia University, the initiative has helped bring more than \$14 million in R&D grants to West Virginia companies in the steel, aluminum, glass, chemicals, forest products, mining, and metal casting industries.

One of the more notable achievements of the West Virginia initiative is its Annual Symposium, which provides a key knowledge transfer opportunity for partners. The state's hand glass industry is also conducting a "virtual showcase" over the Internet to demonstrate the impact of off-the-shelf technologies on productivity, energy usage, and the bottom line.

Another success has been a joint effort with the West Virginia Department of Environmental Protection to declassify spent foundry sand as hazardous waste, thereby enabling its reuse. This change cuts production costs, increases flexibility for foundries, and reduces landfilling requirements.

Because it has been extremely successful in developing a state initiative, West Virginia now serves as a model for other states. In fact, Carl Irwin at West Virginia University won the Office of EERE Industrial Technologies program's 2001 "Partner of the Year Award" for his efforts to help other states implement their State EERE Partnership activities.

To learn more about the West Virginia initiative, visit <http://www.nrcce.wvu.edu/iof/>

Expanding the Reach of the Industries of the Future Strategy

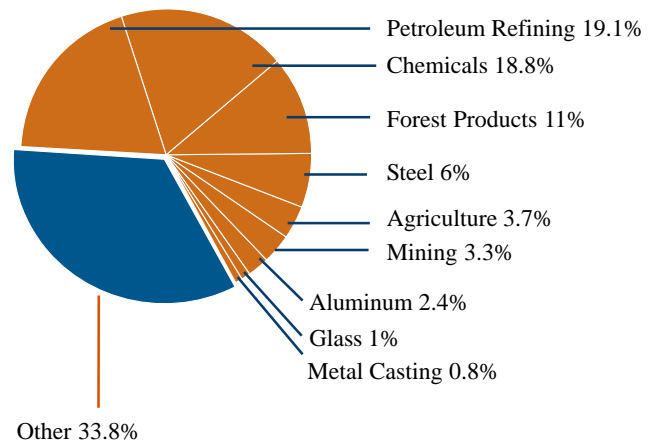
The U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy's Industrial Technologies program is working with members of critical, energy-intensive U.S. industries to facilitate partnerships and address common goals, including the national goal for improved energy efficiency. This strategy, known as Industries of the Future, helps U.S. industries maintain their competitive edge through development and adoption of energy-efficient and waste-reduction technologies and processes. Technology adoption is critical because energy-efficient innovations can reduce dependence on foreign sources of energy, save industry millions of dollars a year, increase output, decrease waste, and lower emissions. Without the IOF strategy, many of these industries wouldn't have the research direction, technical knowledge, or sufficient financial support to develop and adopt advanced technologies and practices that are critical to maintaining their competitiveness.

What is States EERE Partnerships?

The States EERE Partnerships initiative delivers the opportunities and accomplishments of the national IOF strategy to the local level. The idea is not to recreate national efforts, but to expand these opportunities and subsequent results to a larger number of partners.

Specifically, the strategy creates a process by which state agencies – in partnership with local industrial facilities, universities, and research institutions – find common means to address the pressing needs of local industry relative to technology, financial, regulatory, environmental, and policy issues. The goals of these partnerships are to enhance economic development and find a path to help keep local industry healthy, productive, and prosperous in these times of growing energy, environmental, and economic pressures.

Source: EIA, Industrial Technologies program estimates



The Industrial Technologies program's partner industries account for about two-thirds of all energy used in U.S. industry (34.1 quadrillion Btu).



How Do States Benefit?

States EERE Partnerships is an initiative that is based on the local economic and policy environment and is designed to respond to the vast array of needs – technology, financial, regulatory, and policy – facing industrial facilities in that state. The States EERE Partnerships process enables participants to more effectively meet their specific energy, environmental, and economic goals by forming partnerships with local industries to address a community's concerns.

In addition, a powerful result of States EERE Partnerships is the recognition by participants that they share common concerns/issues with others in their industry and across industries. It is through this recognition that effective strategies are designed and results ultimately achieved.

Other key results include the ability to address common technology needs through new research, development, and deployment efforts, and to address local-and state-level regulatory and policy objectives. Ultimately, the results are measured in economic development for the state and the ability to positively impact the energy, environmental, and economic health of one facility at a time – saving jobs and even saving the facility.

How to Develop a State EERE Partnership

States interested in pursuing a State EERE Partnership initiative are encouraged to take the following steps:

- Identify and profile key state industries that have significant energy and environmental impacts; these must include at least one national IOF industry
- Identify a champion(s) who is motivated toward the success of the initiative
- Create an implementation team (state agencies, industry, and academia) that is motivated to create opportunities and produce results
- Create implementation plans that address ALL of the issues raised by participants; identify the sources of solutions – technical, regulatory, and policy
- Sign a state Memorandum of Understanding – an agreement among state leaders, industry leaders, and national leaders toward their cooperative participation in the State EERE Partnership – formalizing the partnership and committing to delivering results
- Establish sustained industry-lead working groups to identify needs and pursue solutions; these working groups should have robust participation from both local plants, state agencies, and local research and educational organizations
- Implement state's plan

Maine

The Maine initiative is managed by the Maine Manufacturing Extension Partnership and involves representatives from state industry, associations, and academia. The focus of the Maine initiative is the state forest products industry, which employs more than 17,000 people.

Maine's initiative is considered a model for several reasons. First, Maine was one of the first states to sign a Memorandum of Understanding with DOE. This agreement signifies a commitment by the State of Maine to the IOF strategy. In addition, the state has successfully created industry roadmaps in several key industries. In 2001, the initiative organized a roadmap workshop that brought together industry and academic experts to prioritize research needs and develop and execute a plan to meet these needs. Finally, the Maine initiative has led to considerable interest in the EERE Industrial Technologies program's BestPractices tools and technologies.



Kentucky

The Kentucky State initiative was initially focused on the aluminum industry, which consists of approximately 80 small- and medium-sized facilities throughout the state. The initiative is managed by a number of organizations including SECAT (an aluminum consortium), the University of Kentucky, the Kentucky Economic Development Cabinet, and DOE. In early 1999, these groups brought together industry representatives and researchers for an aluminum industry roadmap session. The session ultimately contributed to the award of four R&D projects involving about \$15 million to Kentucky companies. Recently, Kentucky firms brought together by the initiative won a fifth aluminum-related project through an EERE Industrial Technologies solicitation for university-led R&D projects.

In addition to project funding, the Kentucky initiative has led to construction of a new research facility to improve efficiency in the aluminum industry. The effort also produced an assessment of the importance of the IOF industries in the Kentucky economy and raised the profile of the IOF industries among Kentucky's leaders and economic development officials.

Kentucky is now expanding its success to other industries in the state. A new SEP grant will target the agriculture, forest products, chemicals, mining, and steel industries. A well-attended roadmapping workshop for the state's chemicals industry was held in June 2001 and mining industry representatives have joined forces to submit R&D proposals to Industrial Technologies-sponsored solicitations.

For more information, visit www.nr.state.ky.us/nrepc/dnr/energy/dcoief.html



Results

Results of States EERE Partnerships are derived through a variety of approaches. The Department of Energy's Industrial Technologies program serves as a catalyst to assist states in forming teams and in helping to deliver results that address technical solutions to energy, environmental, and economic needs. The program provides states with seed money through the State Energy Program Special Projects financial assistance mechanism. This is an annual competitive solicitation to promote the development of a state-level process and to assist states in building teams and creating sustained public/private partnerships. Once the state effort is underway, the Industrial Technologies program can assist in its implementation through its vast array of technical and financial assistance opportunities that address energy use and waste in industrial facilities.

Specific results of States EERE Partnerships efforts include:

MOU Signings

To help formalize state partnerships, DOE and a number of its partner states have signed "Memoranda of Understanding" (MOUs). Officials representing the Industrial Technologies program and either the Governor or a representative from the Governor's office have signed these voluntary, non-binding MOUs that provide a framework for identifying and pursuing technology, research, development, demonstration, and outreach efforts that satisfy the common goals of DOE and participating states. These MOUs demonstrate the support that is needed at all levels of government and the public/private partnership. As of April 2002, ten states have signed MOUs with DOE:

- Idaho
- Iowa
- Maine
- New Hampshire
- Pennsylvania
- Tennessee
- Utah
- Washington
- West Virginia
- Wisconsin



Technology Partnerships

While DOE provides a framework for states to address local regulatory and policy issues through the States EERE Partnerships initiative, the Industrial Technologies program supports and encourages collaborative relationships among state industry, academia, and national labs to evaluate, develop, and demonstrate advanced industrial technologies. These partnerships also sponsor training on industrial energy management, best practices, and technologies.

State Energy Profiles, Visions, and Roadmaps

As part of the States EERE Partnerships process, individual states develop profiles of their key industries. These profiles include data on market trends, energy and material consumption, and environmental impacts. The results of the state-level partnerships are fed into the national IOF efforts and help shape the national visions and roadmaps to reflect the specific needs and goals of individual states.

Showcases

Industrial Technologies program partners use their facilities to showcase advanced technologies in operation and the results of near-term energy management efforts. More specifically, these showcase events demonstrate how a comprehensive approach to improving plant operations can lead to increased productivity as well as cost and energy savings. States active in States EERE Partnerships are encouraged to participate in national-level showcase events or put on local-level energy efficiency technology expositions and demonstrations that accomplish similar goals, but at the local level.

Energy Fairs

An energy fair is a forum for energy-saving ideas and technologies. These one-day events feature tools and opportunities that are relevant to state industry. The tools and techniques presented at the fair can be quickly adopted by industry for immediate energy savings. States active in States EERE Partnerships are encouraged to participate in and sponsor energy fairs.



Wisconsin

Shortly after Wisconsin established a state-level initiative, the state government was given responsibility for promoting energy efficiency – a task usually performed by public utilities. The timing of this shift in responsibility was perfect, since the initiative provided the outreach model to help the state get their industrial technologies programs off the ground quickly.

Wisconsin began its partnership by focusing on metal casting and forest products, two of its largest industries. About 80 of the state's 260 metal casters came together for the first time to create a roadmap with 14 action items. Enthusiasm was so high for one item that work began right away. About ten small foundries are working to pool their waste foundry sand to attain sufficient volume and consistency for aftermarket uses. This pilot project could lead to other regional collaborations whereby several foundries band together to provide sand suitable for reuse in asphalt production. This could save significantly on disposal costs and landfilling.

The first forest products roadmap sessions brought together more than 40 representatives to develop a draft roadmap. Partnerships formed at the meeting have already led to the submission of a number of proposals to EERE's NICE³ initiative.

Future plans for the Wisconsin initiative include expanding participation in other key industries such as glass, chemicals, and agriculture. Biotechnology, a growing industry in the state with 3,000 organizations in the Madison area alone, is another potential focus industry.



Utah

Heavy industry helps drive Utah's economy. This was highlighted in the summer of 2001 as the state worked with the Industrial Technologies program to gather more than 400 regional industrial, academic, and business leaders to participate in a multi-industry showcase. The event featured advanced technologies in mining, petroleum refining, aluminum manufacturing, and metal casting. Participants, including Utah's Congressional delegation and the Governor, spent two intensive days reviewing and studying energy efficiency, waste reduction, and environmental steps that will help ensure Utah's competitiveness as a world-class industrial leader.

The industrial showcase was just one aspect of Utah's initiative, which focuses on outreach and communication. The initiative Web site, for example, won an award from the EERE Industrial Technologies program in 2000. Additionally, several Utah teams have received NICE³ and Inventions and Innovation awards for advanced industrial technologies. The State initiative also actively supports EERE's BestPractices activities and other EERE programs.

For more information, visit <http://www.uiof.org/>



Resources

States EERE Partnerships open doors to useful energy efficiency resources that are provided through the Department of Energy's Office of Energy Efficiency and Renewable Energy's Industrial Technologies program. These include:

Cost-shared R&D

Each year, EERE's Industrial Technologies program awards millions in cost-shared funding to new and ongoing projects. All awards are based on a competitive solicitation process open to collaborative teams with members from industry, academia, national laboratories, state agencies, and industry associations. States with active State EERE Partnership initiatives are encouraged to identify needs that can be met through these opportunities.

Enabling Technologies

EERE's Industrial Technologies program works with industry, national laboratories, academia, and others to research, develop, and deploy enabling technologies that can benefit energy-intensive industries. Efforts in Combustion target clean, cost-effective technologies that will increase productivity, improve energy efficiency, reduce emissions, and enhance fuel flexibility. Research in Sensors and Controls addresses such challenges as improving sensor reach and accuracy in harsh environments and providing integrated, on-line measurement systems for operator-independent control of plant processes. The Industrial Materials initiative funds projects that fill the need for materials that are light, strong, corrosion-resistant, and capable of withstanding high-temperature environments. States with an active State EERE Partnership initiative are encouraged to explore opportunities in the area of enabling technologies that will address local-level priorities.

BestPractices

Through BestPractices efforts, EERE's Industrial Technologies program helps industry apply existing technologies for immediate impacts that save money, cut emissions, and reduce waste. The program alerts companies to opportunities for funding, tools, expertise, and potentially applicable technologies in the Industrial Technologies program's extensive portfolio of energy-saving products and services.

BestPractices plant-wide assessments help manufacturers develop a comprehensive strategy to increase efficiency, reduce emissions, and boost productivity. Up to \$100,000 in matching funds is awarded for each assessment through a competitive solicitation process. Small- to mid-sized manufacturers can take advantage of Industrial Assessment Centers, which provide no-charge assessments through a network of engineering universities.

Financial Assistance

EERE's Industrial Technologies program offers two Financial Assistance elements to boost technology development and application. The Inventions and Innovation element awards grants of up to \$200,000 to inventors of energy-efficient technologies. Grants are used to establish technical performance, conduct early development activities, and initiate commercialization activities.

The second element, NICE³ (National Competitiveness through Energy, Environment, and Economics), provides cost-shared grants of up to \$500,000 to industry-state partnerships

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Washington

Washington State established its state-level initiative in 2000. Developed by the Washington State University Cooperative Extension Energy program, the Washington initiative has narrowed its focus to the forest products, agriculture, petroleum, and food processing industries. At a kick-off event for the initiative in 2000, the Governor's office and EERE's Industrial Technologies program signed a Memorandum of Understanding, and participants identified energy issues facing their industries.

Industry is taking an active role in Washington's efforts. Key industry players participated in planning an April 2002 technology exhibition called "Competitiveness through Innovation: Linking Industrial Technology and Policy." Expected outcomes include new collaborations that will respond to solicitations from the Industrial Technologies program. Washington is also helping other states to implement their initiative.

For more information on the Washington initiative, visit <http://www.energy.wsu.edu/iof/>



State Fact Book

The *State Fact Book* contains economic and project data for each state for the Industries of the Future. To download the fact sheet for your state, visit <http://www.oit.doe.gov/states/tools.shtml>



For more information on States EERE Partnerships, contact the OIT Clearinghouse at (800) 862-2086 or visit <http://www.oit.doe.gov/states>

Please send any comments, questions, or suggestions to webmaster.oit@ee.doe.gov



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